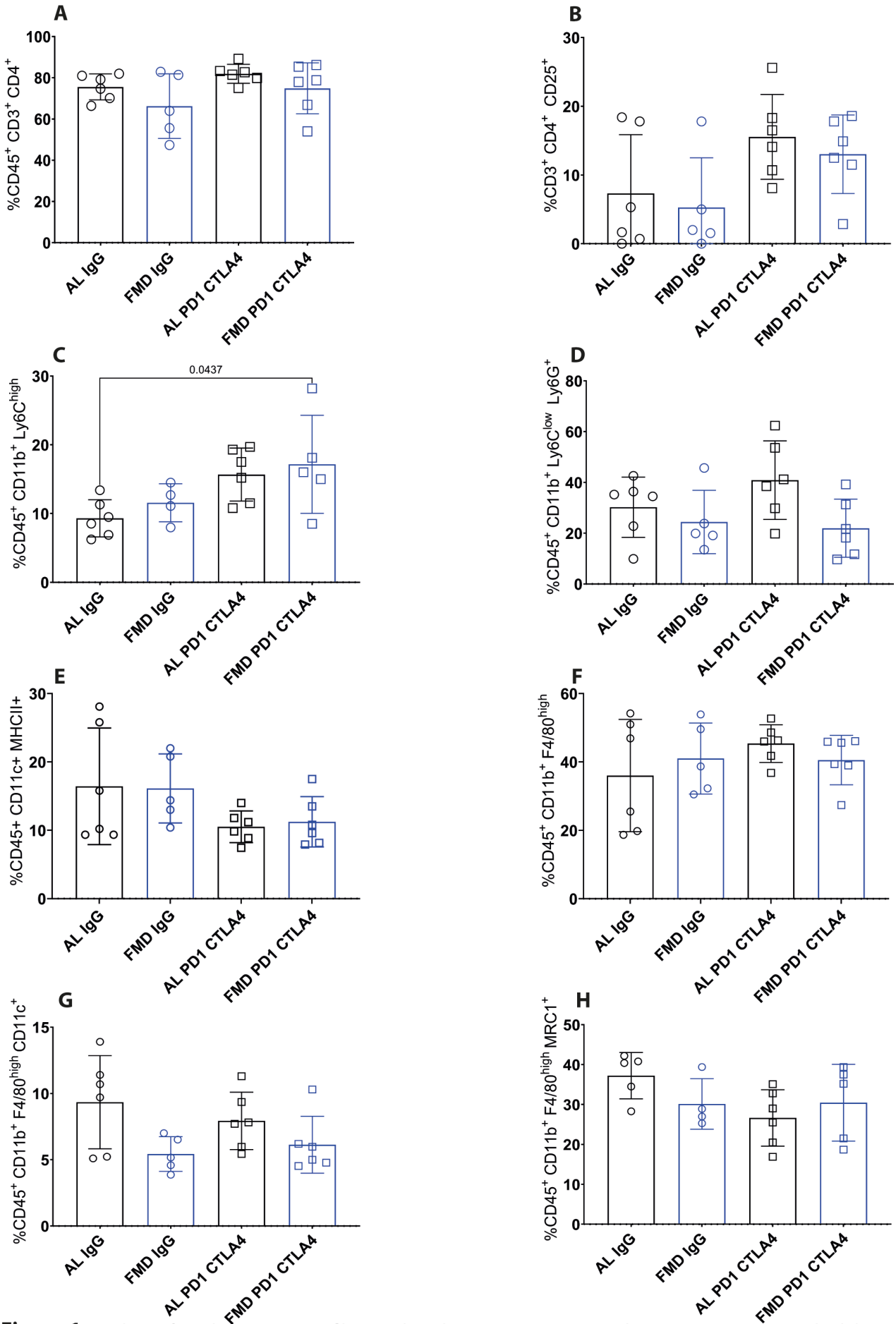
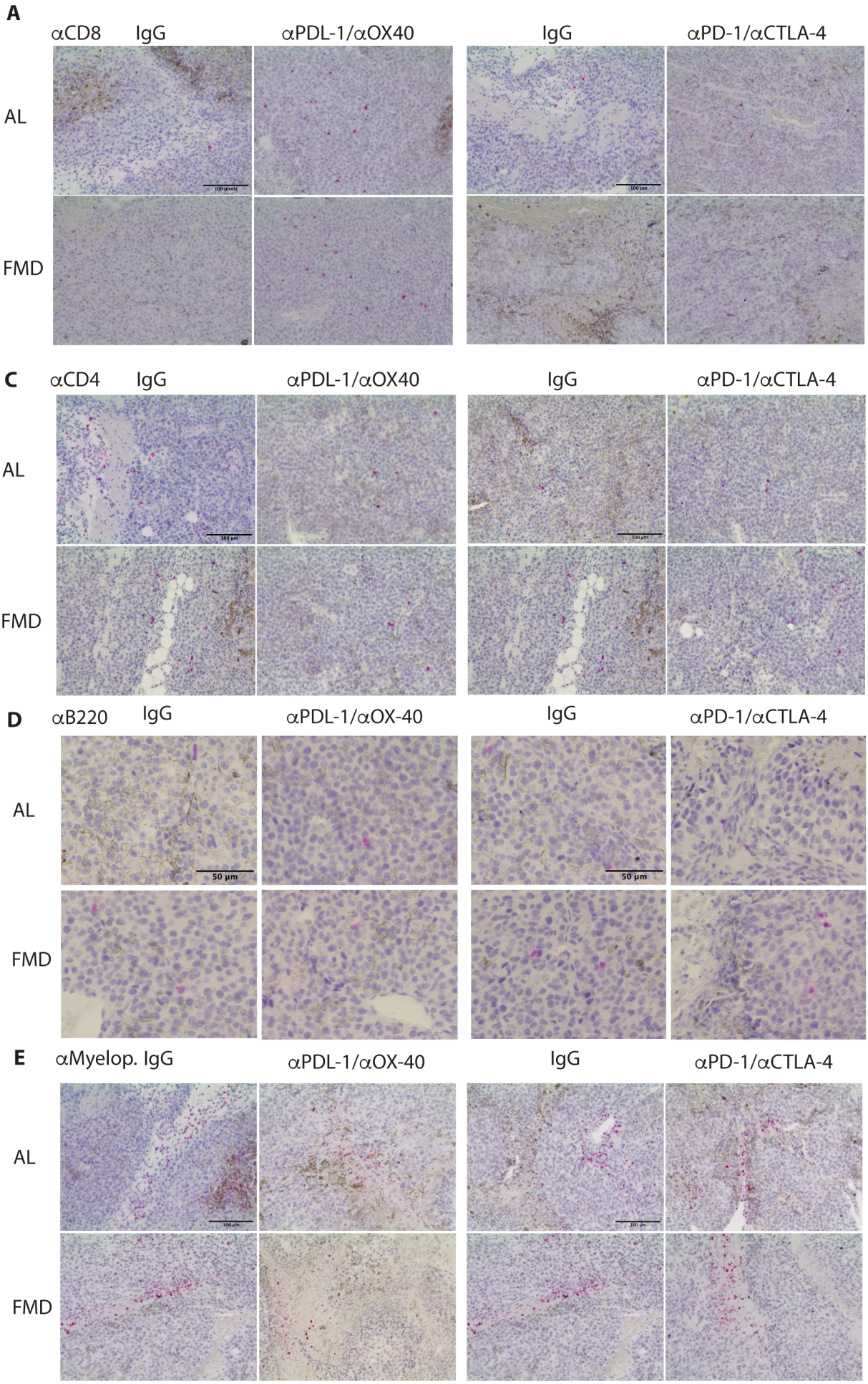
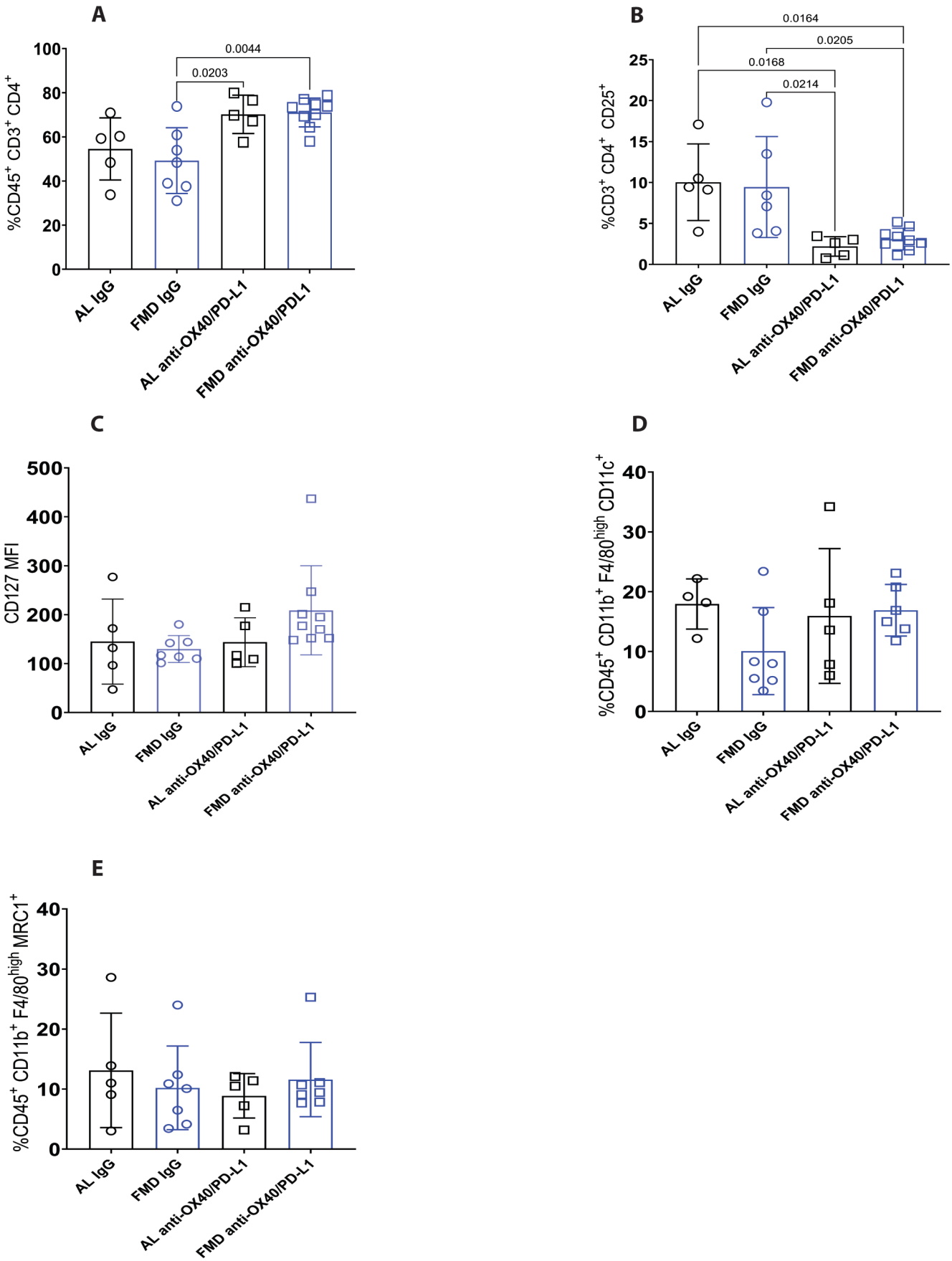


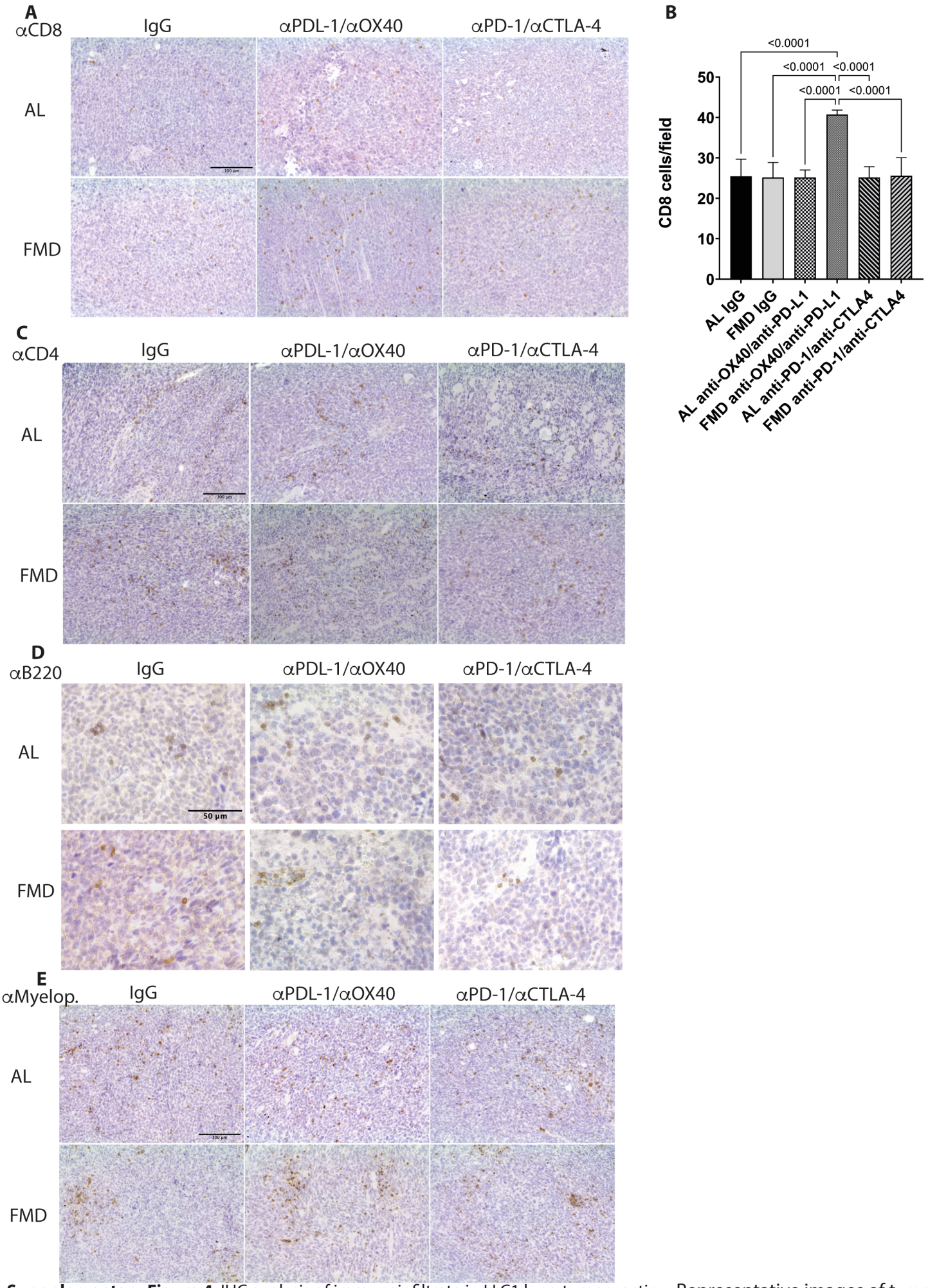
Suppl Figure 1. Analysis of B16 breast tumor infiltrating lymphocytes upon immunotherpy treatment in standard diet and FMD group. (**A**) $CD45^+CD3^+CD4^+$ T cell (AL NT n=6; FMD NT n=5; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=6); (**B**) $CD3^+CD4^+CD25^+$ Treg cells (AL NT n=6; FMD NT n=5; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=6); (**C**) $CD45^+CD11b^+Ly6C^{high}$ M-MDSC (AL NT n=6; FMD NT n=4; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=5); **(D)** $CD45^+CD11b^+Ly6C^{low}$ $Ly6G^{high}$PMN-MDSC (AL NT n=6; FMD NT n=5; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=6); (**E**) $CD45^+$ $CD11c^+MHCII^+$ dendritic cell (AL NT n=6; FMD NT n=5; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=6); (**F**)$CD45^+$ $CD11b^+F4/80^{high}$ macrophage (AL NT n=6; FMD NT n=5; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=6), (**G**) $CD45^+CD11b^+F480^{high}CD11c^+$ M1 (AL NT n=6; FMD NT n=5; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=6); (**H**) $CD45^+CD11b^+F480^{high}MRC1^+$ M2 macrophage (AL NT n=5; FMD NT n=4; AL PD1 CTLA4 n=6; FMD PD1 CTLA4 n=5). Statistical analysis was performed using one-way analysis of variance (ANOVA).). P values were determined by One-way ANOVA with Tukey's post analysis.Differences were considered significant when $P \leq 0.05$. All data are represented as mean ± SEM. Source data are provided as a Source Data file.



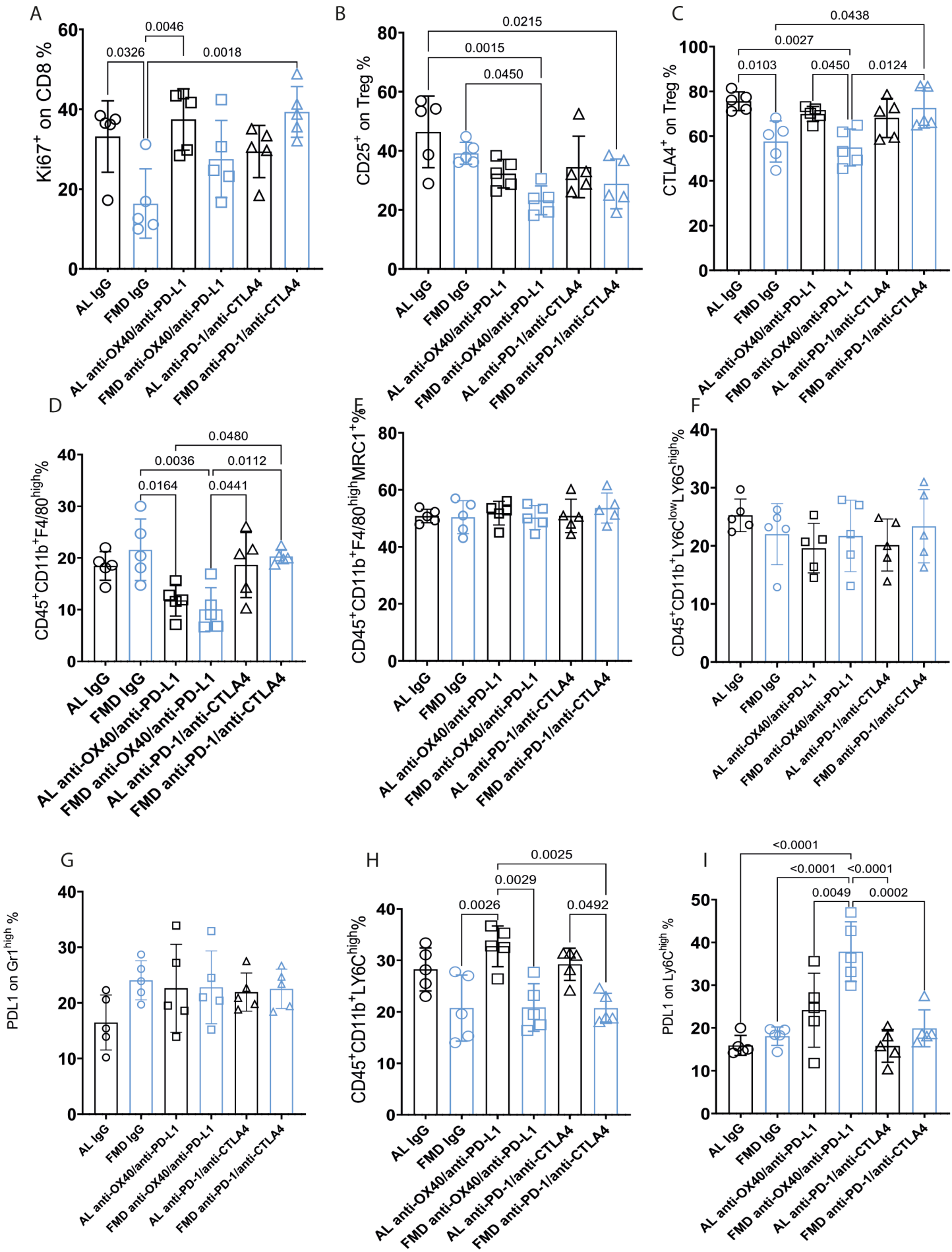
Suppplementary Figure 2. IHC analysis of immuneinfiltrate in B16 melanoma tumor section. Representative images of tumor section stained with: A) CD8, C) CD4, D) B220, E) Myeloperoxidase. The images were obtained under 20× magnification. The scale bar was 100 µm. B) Quantification of CD8 T cells infiltration in tumor sections. Statistical analysis was performed using one-way analysis of variance (ANOVA) (n = 3 tumors; 7 random fields/tumor). P values were determined by One-way ANOVA with Tukey's post analysis. Differences were considered significant when $P \leq 0.05$. All data are represented as mean ± SEM.



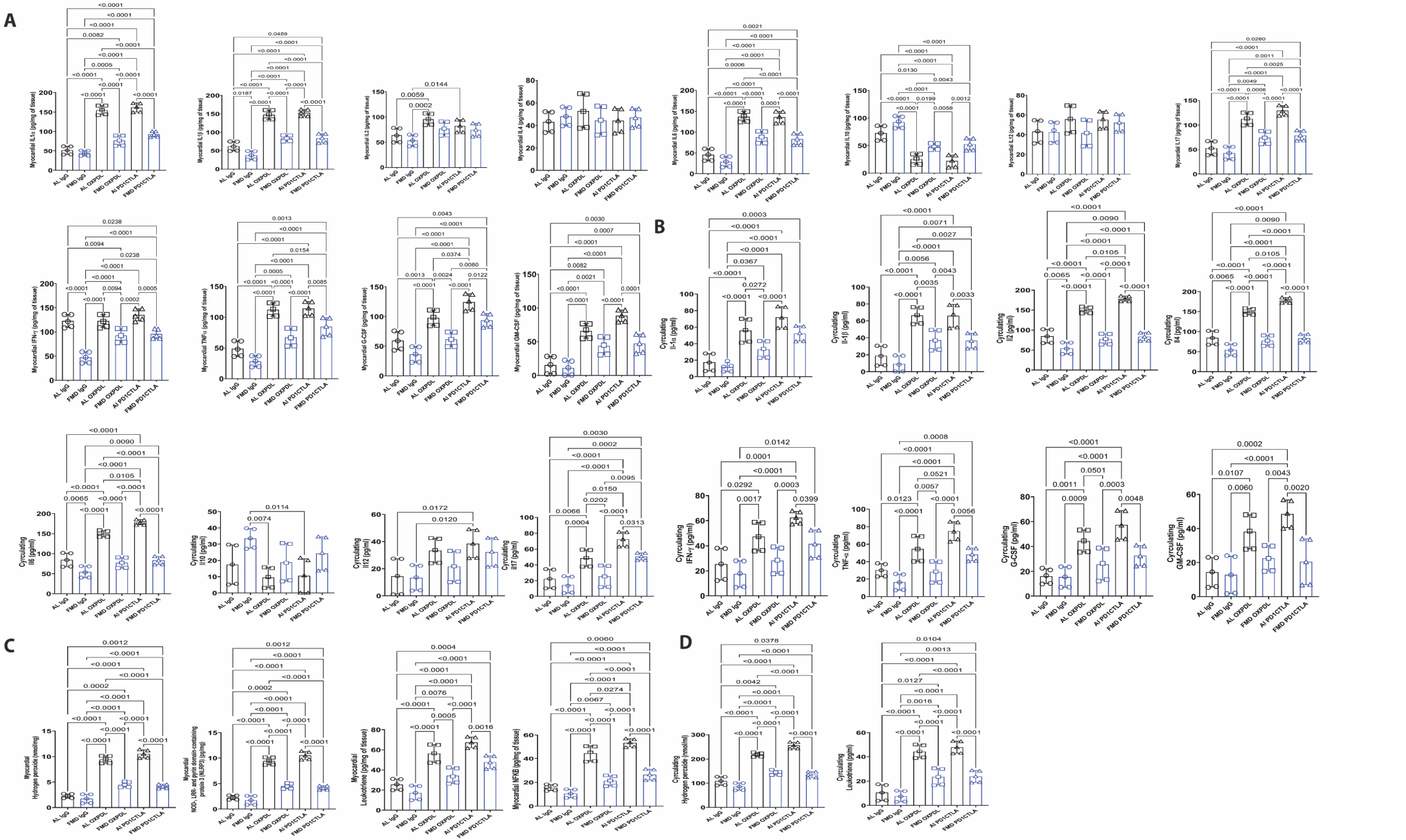
Suppl Figure 3. Analysis of B16 breast tumor infiltrating lymphocytes upon immunotherpy treatment in standard diet and FMD group. (**A**) $CD45^{+}CD3^{+}CD4^{+}$T cell (AL NT n=5; FMD NT n=7; AL anti-OX40/PD-L1 n=5; FMD anti-OX40/PD-L1 n=9); (**B**) $CD3^{+}CD4^{+}CD25^{+}$Treg cells (AL NT n=5; FMD NT n=6; AL anti-OX40/PD-L1 n=5; FMD anti-OX40/PD-L1 n=9); (**C**) mean fluorescence intensity (MFI) of CD127 in $CD3^{+}CD8^{+}CD44^{+}$ effector T cells (AL NT n=5; FMD NT n=7; AL anti-OX40/PD-L1 n=5; FMD anti-OX40/PD-L1 n=9); (**D**) $CD45^{+}CD11b^{+}F480^{high}CD11c^{+}$ (AL NT n=4; FMD NT n=7; AL anti-OX40/PD-L1 n=5; FMD anti-OX40/PD-L1 n=6), (**E**) $CD45^{+}CD11b^{+}F480^{high}MRC1^{+}$ (AL NT n=5; FMD NT n=7; AL anti-OX40/PD-L1 n=5; FMD anti-OX40/PD-L1 n=7). Statistical analysis was performed using one-way analysis of variance (ANOVA). P values were determined by One-way ANOVA with Tukey's post analysis.Differences were considered significant when $P \leq 0.05$. All data are represented as mean ± SEM.



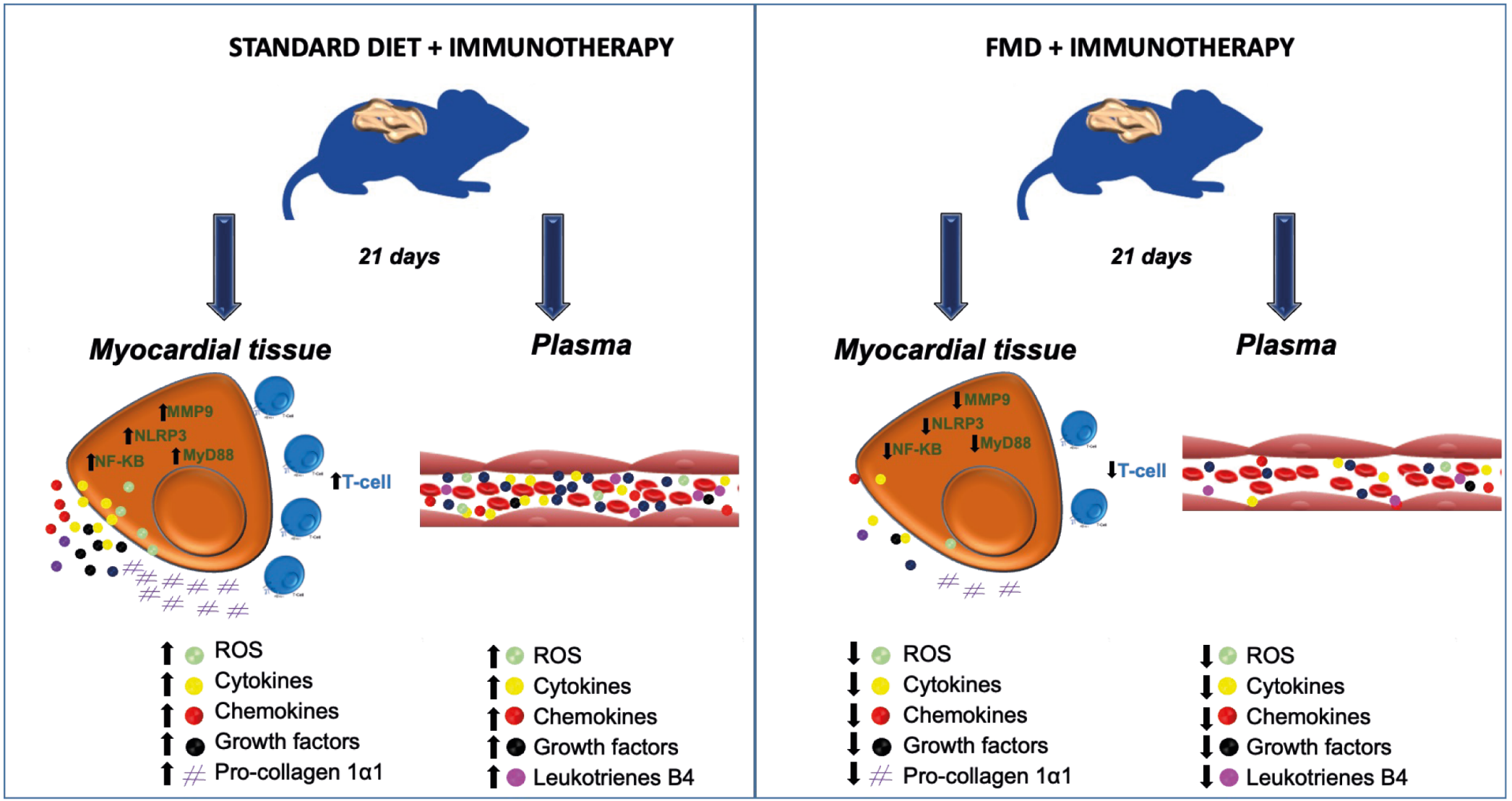
Suppplementary Figure 4. IHC analysis of immuneinfiltrate in LLC1 lung tumor section. Representative images of tumor section stained with: A) CD8, C) CD4, D) B220, E) Myeloperoxidase (n=5). The images were obtained under 20× magnification. The scale bar was 100 µm . B) Quantification of CD8 T cells infiltration in tumor sections (n = 3 tumors; 7 random fields/ tumor). Statistical analysis was performed using one-way analysis of variance (ANOVA).). P values were determined by One-way ANOVA with Tukey's post analysis. Differences were considered significant when$P \leq 0.05$. All data are represented as mean ± SEM.



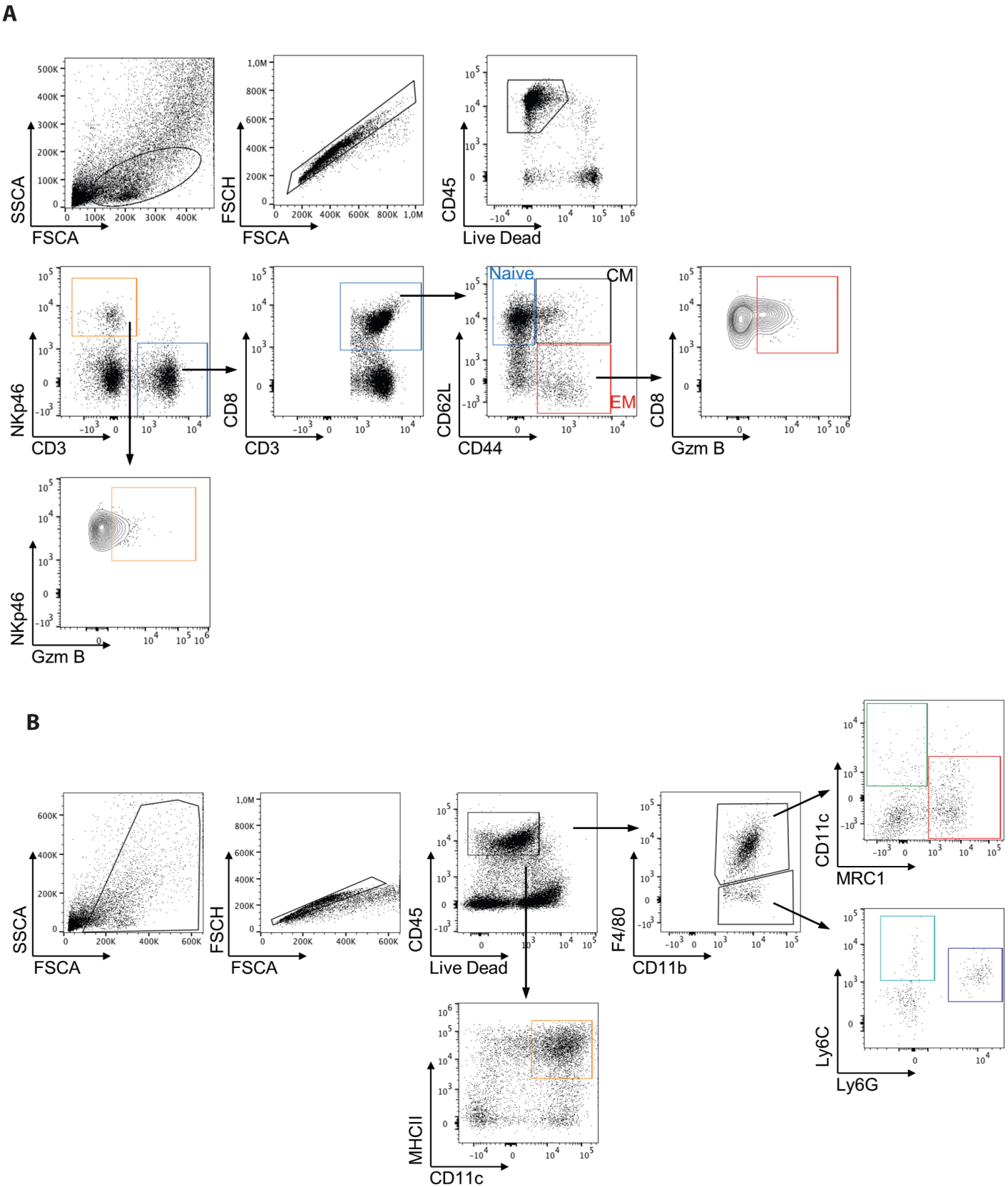
Supplementary Figure 5. Analysis of LLC1 lung tumor infiltrating lymphocytes upon immunotherpy treatment in standard diet and FMD group. A) KI67^{+} on CD8^{+} T cells (n=5); B) CD25^{+} on Treg cells (n=5); C) CTLA-4^{+} on Treg cells; D) CD45^{+} CD11b^{+}F4/80^{high} macrophage (n=5); E) CD206^{+} on CD45^{+} CD11b^{+}F4/80^{high} macrophage (n=5); F) CD45^{+}CD11b^{+}GR1^{high} PMN-MDSC (n=5) G) PD-L1^{+} on GR1^{high} PMN-MDSC (n=5); H) CD45^{+}CD11b^{+}Ly6C^{high} M-MDSC (n=5); I) PD-L1^{+} on Ly6C^{high} M-MDSC (n=5). Statistical analysis was performed using one-way analysis of variance (ANOVA). P values were determined by One-way ANOVA with Tukey's post analysis.Differences were considered significant when P≤0.05. All data are represented as mean ± SEM.



Supplementary Figure 6. FMD affects pro- and anti-inflammatory cytokine secretion upon immunotherapy treatment and attenuate Reactive Oxygen Species (ROS), NLRP-3 inflammasome, leukotrienes and NF-kB expression in heart and plasma. Cytokines level (pg/ml) in heart (**A**) and plasma (**B**). ROS, NLRP-3 inflammasome, leukotrienes and NF-kB expression in heart (**C**) and plasma (**D**). IL-1α,1β, 2, 4, 6, 12, 17α: interleukin -1α,1β, 2, 4, 6, 12, 17α; IFN-γ: interferon γ; TNF-α: tumor necrosis factor a; G-CSF: granulocyte colony stimulating factor; GM-CSF: granulocyte-macrophage colony stimulating factor (n=5). Statistical analysis was performed using one-way analysis of variance (ANOVA). P values were determined by One-way ANOVA with Tukey's post analysis.Differences were considered significant when $P<0.05$. All data are represented as mean ± SEM. 'Source data are provided as a Source Data file



Supplementary Figure 7. Overall picture of the study demonstrating FMD decreases immune $CD3^+$ and $CD8^+$ lymphocytes and NLRP-3, Pro-collagen 1α1, MMP-9 and NF-KB expression in myocardial tissue of C57BL/6J melanoma bearing mice treated for 21 days with anti-OX40/anti PD-L1 and anti-PD-1/anti-CTLA-4 therapy. Systemic and myocardial chemokines, cytokines and growth factors(IL-1α, IL-1β, IL-6, IL17-α, G-CSF, and GM-CSF levels were also reduced in FMD group vs AI group.



Supplementary Figure 8. Gating strategy for FACS analysis of immune infiltrate. **A**) Gating strategy for CD8 lymphocyets and NK cells(Figure 1 D-F and Figure 2 D-F). Among viable CD45$^+$ cells, NK cells were gated as NKp46$^+$ and T cells were gated as CD3$^+$. Among T cells, CD8$^+$ effector memory T cells were gated as CD44$^+$ CD62L$^-$.**B**) Gating strategy for myeloid cells (Figure 3 A-D). Among CD45$^+$ cells, dendritic cells (DC) were gated as CD11c$^+$ MHCII$^+$ and macrophages were gated as F4/80$^+$ CD11b$^+$. PMN-MDSC and M-MDSC cells were identified among F4/80– CD11b$^+$ cells according to the expression of Ly6C and Ly6G.